ILTER 2nd Open Science Meeting, Leipzig, 2-6 September, 2019

**Abstract to Submit to Theme 4**: Advances in long-term socio-ecological research and sustainability science

Addressing global environmental challenges requires the integration of multiple disciplinary approaches drawn from the natural, physical and social sciences. Furthermore, integration of stakeholders is a crucial element of research that is relevant for policy, planning and management. Transdisciplinary research methods are continually being examined and refined to increase their effectiveness. This session addresses three crucial issues in socio-ecological research:

1) The inherent challenges in scaling up place-based research;

2) New methodologies for integrating stakeholders into research for sustainability;

3) Assessment of transdisciplinary socio-ecological research – how do we know when and where its working?

**Developing a tool for monitoring *Sense of Place* over the long-term at LTER sites and LTSER platforms**

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Sense of Place (SOP) refers to the place attachment and meaning that people and communities create in relation to a geographical location and thus make it a 'place'. Individuals feel that they are rooted in a place to the extent that it becomes part of their identity (i.e. place-identity) and develop a perception that in this place they can express their full potential (a.k.a. self-dependency), or the opposite phenomenon; they feel alienated by this place.

Although individuals' attitudes to a place may be negative or positive, SOP generally refers to a positive meaning and the feeling that the place is a home. Recent studies have indicated a relationship between SOP, environmental values and the willingness to protect the local nature, culture, and society. A relationship was also found between residents' SOP and their willingness to adopt responsible behavior in relation to ecosystems that provide them with ecosystem services. For this reason, SOP may be a useful long-term social indicator toward producing knowledge to inform sustainable approaches in the International Long-Term Ecological Research (ILTER) network. The main obstacle to the standardization, implementation, and scaling-up of such an indicator is that SOP is anchored in the unique nature of the local society and environment. In light of this, it is reasonable to ask whether and how an SOP evaluation tool might be developed that would enable long-term local monitoring as well as the possibility of comparing LTER sites and Long-Term Socio-Ecological Research (LTSER) platforms at an international level.

A joint study of two LTSER Platforms, the arid LTSER in the Negev Highlands of Israel and the Sub-Arctic LTSER at Cape Horn in southern Chile, was designed to provide a preliminary answer to this question. Following a comprehensive literature review, a relatively simple theoretical framework was constructed which allowed the use of a single questionnaire at both platforms, requiring only minor adjustments to adapt it to each local system despite great differences in the two sites' geographical and social conditions. Thirty residents at each platform answered the questionnaire.

An analysis of the results shows that SOP is a place-based indicator that depends significantly on local conditions. However, making generalizations at a high level of abstraction makes it possible to compare different platforms. We conclude that it is indeed feasible to create a standard indicator with which to monitoring SOP over the long-term at diverse, international sites. To further develop such a tool and implement and scale-up its use in the ILTER network, we call upon our colleagues at other LTER sites/LTSER platform to join a new study to survey SOP around the world using a common methodology for the first time.